

SEQUENCE LISTING

5 <110> Herr, John C.
 Norton, Elizabeth J.
 Deikman, Alan B.

10 <120> Recombinant Antibody Directed Against Human Sperm
 Antigen

<130> 00415-02

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<150> 60/145,512
 <151> 1999-07-23

20 <160> 18

<170> PatentIn Ver. 2.1

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 35 40 45

Pro Glu Leu Leu Ile Tyr Arg Val Ser Asn Arg Phe Ser Gly Val Pro
 40 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

-2-

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys Ser Gln Ser
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Thr His Val Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
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ttcctgcaga agccaggcca gtctccagag ctctgatct acagagtttc caaccgattt 180

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25 agcagagtgg aggctgagga tctgggagtt tatttctgtt ctcaaagtac acatgttcca 300

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 20 25 30

Trp Met His Trp Val Arg Gln Arg Pro Gly Gln Gly Pro Glu Trp Ile
35 40 45

45

-3-

Gly Asp Ile Tyr Pro Gly Ser Gly Asp Ser Asn Tyr Asp Val Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Val Asp Thr Ser Ser Ser Thr Val Tyr
 5 65 70 75 80

Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
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Thr Val Thr Val Ser Ser
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30 atacaactca gcagcctgac atctgaggac tccgcgggtct attactgtgc aagagggggac 300
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40 <213> Artificial Sequence

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 <223> Description of Artificial Sequence:peptide linker

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<223> Description of Artificial Sequence:PCR primer

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<223> Description of Artificial Sequence:PCR primer

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Gly Ala Ser Val Lys Val Ser Cys Arg Ala Ser Gly Tyr Lys Phe Thr
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Thr Tyr Trp Met His Trp Val Arg Gln Arg Pro Gly Gln Gly Pro Glu
 5 35 40 45

Trp Ile Gly Asp Ile Tyr Pro Gly Ser Gly Asp Ser Asn Tyr Asp Val
 50 55 60

Lys Phe Lys Asn Lys Ala Thr Leu Thr Val Asp Thr Ser Ser Ser Thr
 10 65 70 75 80

Val Tyr Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr
 15 85 90 95

Tyr Cys Ala Arg Gly Asp Tyr Gly Cys Pro Phe Val Tyr Trp Gly Gln
 100 105 110

Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
 20 115 120 125

Gly Ser Gly Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Phe
 130 135 140

Ser Leu Pro Val Ser Leu Gly Gly Pro Ala Ser Ile Ser Cys Arg Ser
 25 145 150 155 160

Ser Gln Ser Leu Val His Ser Asn Arg Asp Thr Tyr Leu His Trp Phe
 165 170 175

Leu Gln Lys Pro Gly Gln Ser Pro Glu Leu Leu Ile Tyr Arg Val Ser
 30 180 185 190

Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly
 35 195 200 205

Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly
 210 215 220

Val Tyr Phe Cys Ser Gln Ser Thr His Val Pro Phe Thr Phe Gly Ser
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Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala Gly Ala Pro Val Pro
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Tyr Pro Asp Pro Leu Glu Pro Arg
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15 cagaggcctg gacaaggccc tgagtggatt ggagatattt atcctggtag tgggtgattct 180
aactacgatg tgaagttcaa gaacaaggcc aactgactg tagacacatc ctccagcaca 240
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20 ggggactatg gttgcccttt tgtttactgg ggccaaggca ccacggtcac cgtctccagt 360
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25 cagtctccat tctccctgcc tgtcagtctt ggaggtccag cctccatctc ttgcagatct 480
agtcagagtc ttgtacacag taatagagac acttatttac attggttcct gcagaagcca 540
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gaggatctgg gagtttattt ctgttctcaa agtacacatg ttccattcac gttcggctcg 720

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<210> 10
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<212> DNA
<213> Artificial Sequence

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<220>

<223> Description of Artificial Sequence: synthetic
sequence substituting bacterial codons for mouse
codons

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cagcgccctg gccaaggccc tgagtggatt ggcgatattt atcctggtag tgggtgattct 180

aactacgatg tgaagttcaa gaacaaggcc aactgactg tagacacatc ctccagcaca 240

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gtttacatcc aactcagcag cctgacatct gaggactccg cggtctatta ctgtgcaaga 300

ggggactatg gttgcccttt tgtttactgg ggccaaggca ccacggtcac cgtctccagt 360

ggcggcgggc gcagcggcgg tgggtggttct gggggcggcg gcagcgacat cgagctcact 420

20

cagtctccat tctccctgcc tgtcagtctt ggcgatccag cctccatctc ttgccgctct 480

agtcagagtc ttgtacacag taatcgcgac acctatctgc attggttcct gcagaagcca 540

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cgcttcagtg gcagtggctc agggacagat ttcacactca agatcagcag cgtggaggct 660

gaggatctgg gcgtttattt ctgtttctcaa agtacacatg ttccattcac gttcggctcg 720

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<210> 11

<211> 251

<212> PRT

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic
sequence substituting amino acids in the natural
mouse protein to "humanize" the protein

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 5 Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
 20 25 30
 Thr Tyr Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu
 10 35 40 45
 Trp Ile Gly Asp Ile Tyr Pro Gly Ser Gly Asp Ser Asn Tyr Asp Val
 50 55 60
 15 Lys Phe Lys Asn Arg Val Thr Ile Thr Ala Asp Thr Ser Thr Ser Thr
 65 70 75 80
 Ala Tyr Met Gln Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr
 85 90 95
 20 Tyr Cys Ala Arg Gly Asp Tyr Gly Cys Pro Phe Val Tyr Trp Gly Gln
 100 105 110
 Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
 25 115 120 125
 Gly Ser Gly Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser Pro Ser
 130 135 140
 30 Ser Leu Pro Val Ser Val Gly Asp Pro Ala Ser Ile Ser Cys Arg Ser
 145 150 155 160
 Ser Gln Ser Leu Val His Ser Asn Arg Asp Thr Tyr Leu His Trp Tyr
 165 170 175
 35 Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Arg Val Ser
 180 185 190
 Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly
 40 195 200 205
 Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly
 210 215 220

-9-

Val Tyr Tyr Cys Ser Gln Ser Thr His Val Pro Phe Thr Phe Gly Gln
225 230 235 240

5 Gly Thr Lys Val Glu Ile Lys Arg Ala Ala Ala
245 250

<210> 12

<211> 753

10 <212> DNA

<213> Artificial Sequence

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15 <223> Description of Artificial Sequence: synthetic
sequence substituting human codons for mouse
codons

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caagctcctg gtcaaggctt ggaatggatt ggtgatattt atcctgggtc tggtgattct 180
25 aattatgatg ttaaatttaa aaatcgtgtt accattaccg ctgatacctc tacctctacc 240
gcttatatgc aattatctag cttacgttct gaagataccg cagtttatta ttgtgcacgt 300
ggtgattatg gttgtccttt tggttattgg ggtcaaggca ccacgggttac cgtttctagc 360
30 ggtggcggcg gttctggcgg tggcggtagc ggcggtggtg gctctgatat tggtatgacc 420
caatctcctt ctagcttacc tggttctggt ggtgatcctg ctagcatttc ttgtcgttct 480
35 agccaatctt tagttcatag caatcgtgat acctatttac attggtatct gcagaaacct 540
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40 gaggatgttg gtgtttatta ttgttctcaa agcaccatg ttccttttac gttcgggtcaa 720
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<210> 13

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<212> DNA

5 <213> Artificial Sequence

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<223> Description of Artificial Sequence:nucleic acid
linker

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<210> 14

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<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:commercially
available petide antigen

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<400> 14

Gly Ala Pro Val Pro Tyr Pro Asp Pro Leu Glu Pro Arg

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<210> 15

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<212> PRT

<213> Mus musculus

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Met Ala Gln Val Lys Leu Gln Gln Pro Gly Ser Glu Pro Val Arg Pro

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Gly Ala Ser Val Lys Val Ser Cys Arg Ala Ser Gly Tyr Lys Phe Thr

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Thr Tyr Trp Met His Trp Val Arg Gln Arg Pro Gly Gln Gly Pro Glu

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Trp Ile Gly Asp Ile Tyr Pro Gly Ser Gly Asp Ser Asn Tyr Asp Val
 50 55 60

5 Lys Phe Lys Asn Lys Ala Thr Leu Thr Val Asp Thr Ser Ser Ser Thr
 65 70 75 80

Val Tyr Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr
 85 90 95

10 Tyr Cys Ala Arg Gly Asp Tyr Gly Cys Pro Phe Val Tyr Trp Gly Gln
 100 105 110

Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
 115 120 125

15 Gly Ser Gly Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Phe
 130 135 140

Ser Leu Pro Val Ser Leu Gly Gly Pro Ala Ser Ile Ser Cys Arg Ser
 20 145 150 155 160

Ser Gln Ser Leu Val His Ser Asn Arg Asp Thr Tyr Leu His Trp Phe
 165 170 175

25 Leu Gln Lys Pro Gly Gln Ser Pro Glu Leu Leu Ile Tyr Arg Val Ser
 180 185 190

Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly
 195 200 205

30 Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly
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Val Tyr Phe Cys Ser Gln Ser Thr His Val Pro Phe Thr Phe Gly Ser
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Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala
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5 cagaggcctg gacaaggccc tgagtggatt ggagatattt atcctggtag tgggtgattct 180
aactacgatg tgaagttcaa gaacaaggcc aactgactg tagacacatc ctccagcaca 240
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